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United States Department of the Interior, J.A. Krug, Secretary
Fish and Wildlife Service, Albert M. Day, Director

Fishery Leaflet 343

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FLOATING TRAWLS[1/]

By William S. Krason, Asst. Commercial Attache'

Soon after news was released about the newly-invented Danish floating trawl, the Director of the Purchasing Department of the Union of Icelandic Fishing Vessel Owners, in February 1949, made a trip to Skagen, Denmark, on behalf of the Union in order to secure the patent rights for the Danish trawl. The trip resulted in concluding a contract with Mr. Robert Larsen, the Danish inventor of the floating trawl, whereby the Icelanders acquired the right to manufacture the trawl in Iceland for the use of the Icelandic fishing fleets only. Twenty pounds sterling (approximately $80.60) will be paid to the inventor for each trawl locally produced, provided Mr. Larsen obtains a patent from the Danish authorities. A condition was agreed upon that the trawls would not be manufactured for export.

Mr. Larsen sent the Union the drawings and specifications of the trawl, and one sample presently is being manufactured in a factory at Akranes. (It is reported that a Swedish netting company at Gothenburg offered to sell the Union similar floating trawls.) Akranes fishermen have offered to test the Icelandic-manufactured trawl as well as an imported one off the Snaefells Peninsula, where drift-net herring fishing is usually conducted from the beginning of March to the end of June. After a trial test is made of the trawl, the Icelanders will be able to decide its applicability in local waters.

After an understanding was reached between the inventor and the Union of Icelandic Fishing Vessel Owners, it was decided to send two Icelandic captains, who have had considerable experience in Icelandic herring fisheries, to Skagen, Denmark, to study and observe the workings of the floating trawl in Danish waters. Unfortunately, by the time these two persons arrived in Denmark, the herring season terminated. Consequently, they did not have the opportunity to observe at first hand the operation of the trawl. The two captains, however, interviewed numerous Danish fishermen to determine the consensus of opinion regarding the effectiveness of the floating trawl. To their amazement, all the Danish fishermen agreed that the new trawl was a great invention and indubitably would revolutionize herring fisheries. It is to be noted that although the Danes agree that the trawl

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1/ American Consulate Report No. 20, Reykjavik, Iceland, May 17, 1949

is extremely efficacious, under Icelandic conditions the trawl may not meet up with those expectations. After trial test is made of the trawl, the Icelanders will be able to decide its applicability in local waters.

The Icelandic summer herring season generally commences in late June and terminates about the middle of September. During this season herring catches are caught off the northern coast of Iceland; purse seine nets are employed. Herring catches are only possible with these nets if the herring surfaces. Herring when they surface generally gather in very tight shoals; when they are in six to eight fathoms of water they appear to be spread over a wider area. The floating trawl will not be able to replace the purse seine net in surface herring fisheries. Where, however, the herring are submerged, the floating trawl could be used advantageously. The trawl could also replace the drift net which occasionally is used toward the latter part of the summer herring season.

For several decades, Icelandic fishermen have been aware of the appearance of herring off the south-western coast of Iceland. This herring is generally found at depths of 8 to 10 fathoms spread over wide areas. This particular herring cannot be located by the use of echo meters. The main season ranges from early April until the end of June. Sizeable quantities of herring have never been caught during this particular season. The Icelanders are convinced that the trawl could be extensively and successfully employed during this season.

For the first time during the winter of 1946/47 herring appeared in large quantities in Hvalfjordur, the Faxa Bay area. The 1947/48 winter fisheries produced unprecedented quantities of herring. However, during that season the ratio of the catch of herring to the amount of herring which was detected by echo meters was infinitesimal. Echo meters employed by the modern fishing vessels can register herring at depths up to 15 fathoms. On many occasions the echo meters were unable to record the depth of the Bay because of the extremely congested shoals of herring. It is very problematical whether the Danish floating trawl could be employed effectively in areas where herring run in such tight shoals, as it is very difficult to control the amount of the herring taken into the trawl. Experience has taught the Icelandic fisherman that even purse seine nets will give way under the weight of herring. However, the fishermen believe that a way could be found to control or to stop the trawl before it gets too full.

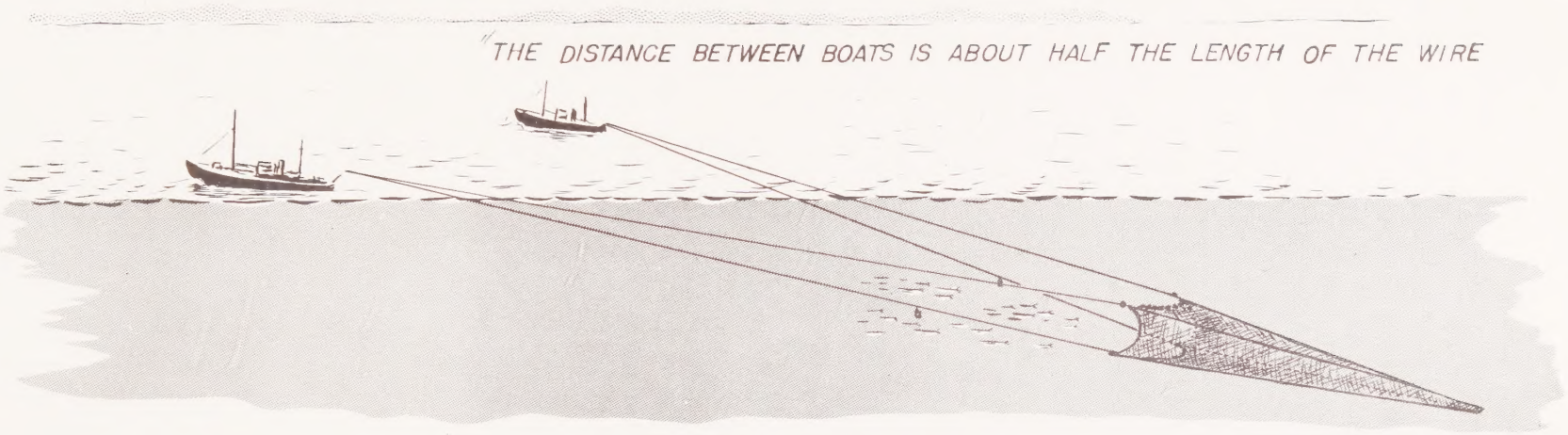
Herring have also been located by echo meters in various other regions off the Icelandic coast. Catches have been insignificant because of the absence of proper equipment. The seamen believe that with modifications in the Danish floating trawl it could be employed in many coastal areas where herring have not been previously caught.

According to the Union, there is reason to believe that the employment of this trawl will be of great importance for the Icelanders. The Icelanders do agree that the invention may revolutionize the herring fisheries as the employment of the trawl will enable fishing vessels to search for herring all year round. The floating trawl, it is said, may act as

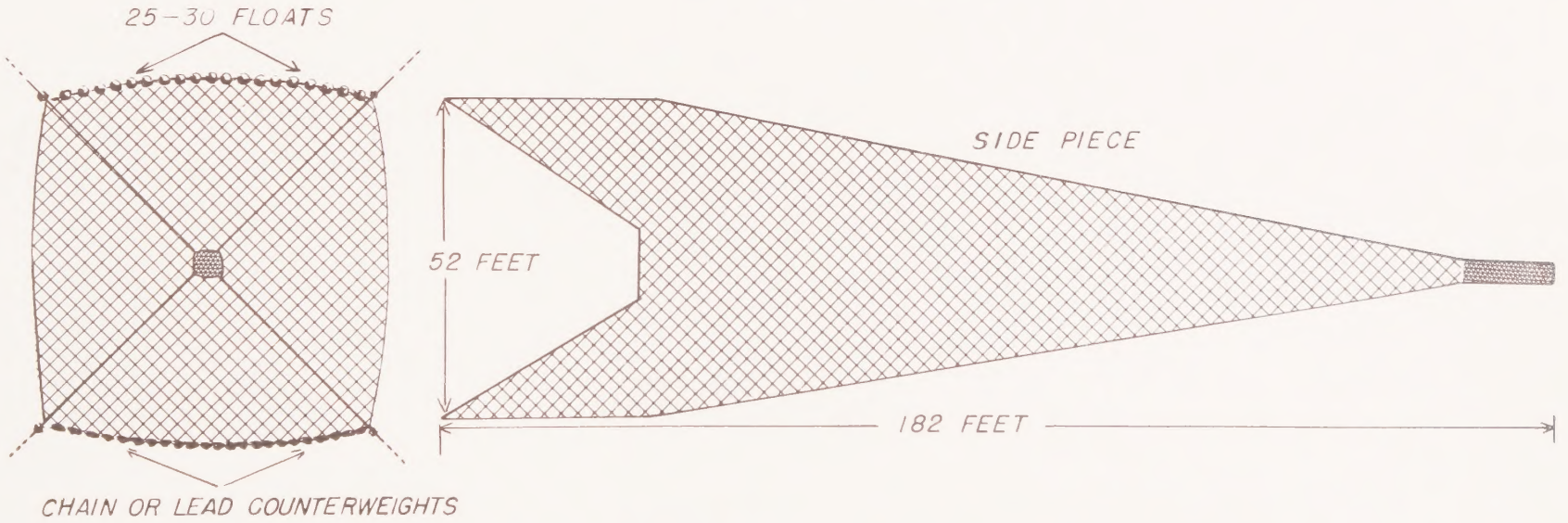
an excellent substitute for the drift net, and thereby increase the catches of herring manifold. In the north coast herring fisheries the vessels will continue the employment of purse seine nets. There is also reason to believe that the Danish trawl may be employed in the cod fishery, and with some slight adjustments in the trawl it could be utilized in whitefish fisheries. The inventor further states that both the Danes and the Faroese will experiment with the Danish trawl off the coast of Greenland this coming summer, and the Icelanders also plan to try its effectiveness off the Greenland coast.

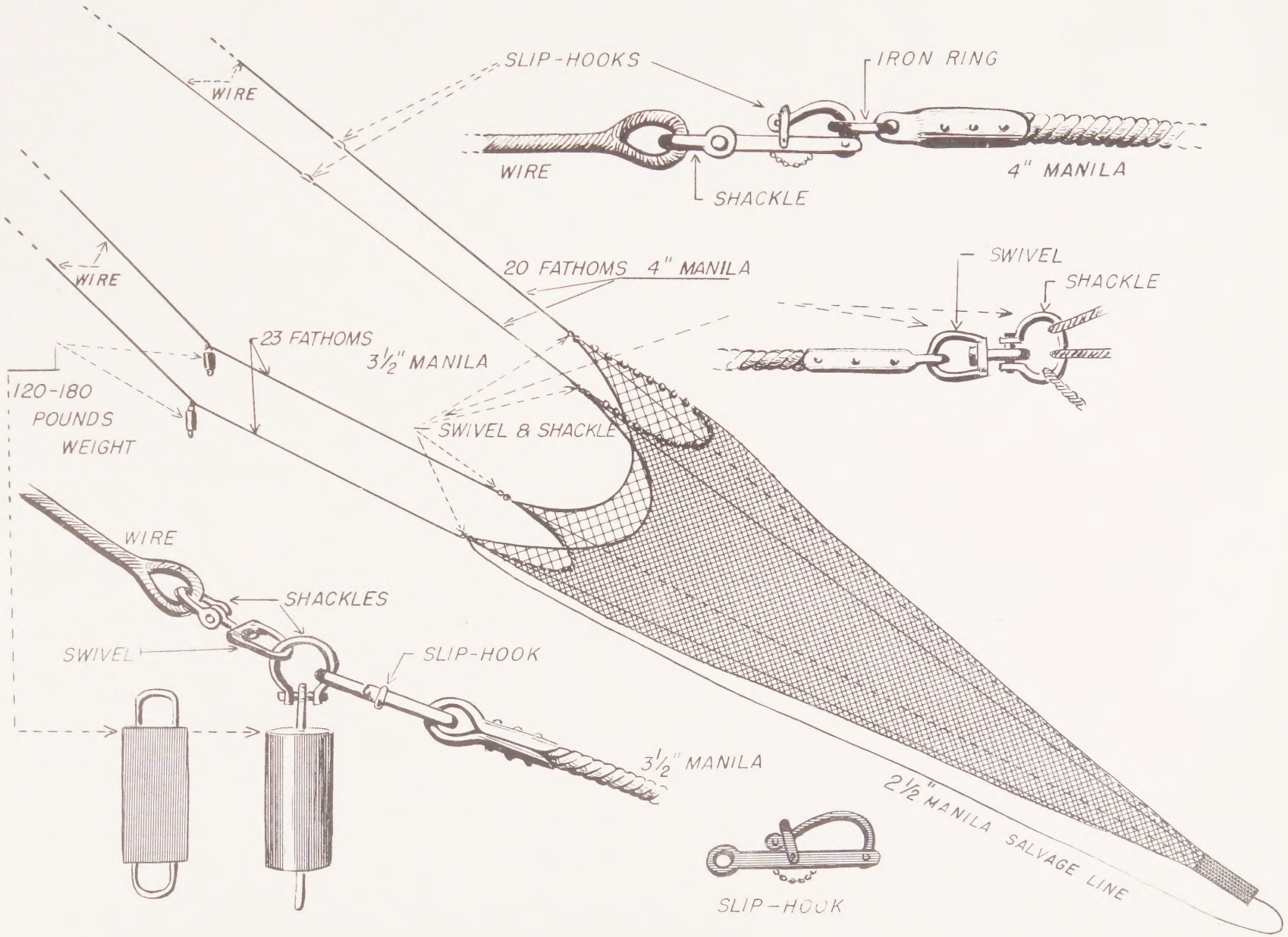
The following specifications will give some indication as to the appearance and size of the trawl. The trawl itself is about 36 fathoms long; the net is square shaped and 30 fathoms long; each of the four wings is 6 fathoms in length. The net is widest at its mouth, each side measuring 8 fathoms and gradually tapering to an ordinary bag. At its mouth, the trawl measures 256 square meters (2,755 square feet). The space between the wings at the trawl's mouth measures 2 fathoms, from which the wings gradually taper to a point. There are 30 meshes at the wings' narrowest point. In order to keep the trawl open, either chains or leads are employed as counterweights along the lower edge of the trawl and buoyed by 24-30 floats on upper edge. The sizes of the meshes are 16 mm. (.62 in.), 34 mm. (1.34 in.), 46 mm. (1.81 in.), 58 mm. (2.28 in.), 68 mm. (2.7 in.). A $2\frac{1}{2}$-inch rope is attached to all the edges, forming a loop at each corner where the sides converge. From the loop there extend four manila ropes, the upper two measuring 20 fathoms and the lower two 23 fathoms. These four manila ropes are again attached to two $1\frac{1}{4}$-inch wires from each boat, one for the upper two and one for the lower two. Two 154-pound weights are attached to the lower wires, i.e., those attached to the bottom sides of the trawl. When in operation, the floating trawl is pulled by two motor-boats and the depth can be regulated by the speed of the vessels and by the slackening and tightening of the cables towing the trawl. An automatic depth meter indicates regularly the depth of the trawl. On boats using this new trawl, a crew of 8 to 10 is required.

The trawl is estimated to cost $800 compared to $9,992 for a purse-seine net, according to a Norwegian newspaper.



THE TRAWL IN OPERATION

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